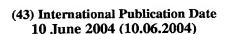
(19) World Intellectual Property Organization

International Bureau





PCT

(10) International Publication Number WO 2004/049051 A1

(51) International Patent Classification7: G02F 1/1347

(21) International Application Number:

PCT/IB2003/004637

(22) International Filing Date: 16 October 2003 (16.10.2003)

(25) Filing Language:

Englis

(26) Publication Language:

English

(30) Priority Data: 2002-339552

22 November 2002 (22.11.2002) JP

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): UKAWA, Yusei [JP/JP]; c/o Philips Japan, Ltd., Philips Bldg., 2-13-37, Kohnan, Minato-ku, Tokyo 108-8507 (JP).

(74) Agent: AOKI, Hiroyoshi; c/o Philips Japan, Ltd., Philips Bldg., 2-13-37, Kohnan, Minato-ku, Tokyo 108-8507 (JP). (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

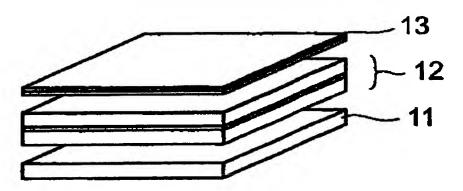
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TRANSFLECTIVE LIQUID CRYSTAL DISPLAY DEVICE



(57) Abstract: A transflective liquid crystal display device with a reflective mode using external light and a transmissive mode using a light source comprising a light source (11) used in the transmissive mode, a liquid crystal panel (12), arranged over the light source, for operating as display element and a diffusing optical element (13), arranged over the liquid crystal panel, for having a scattering state in the reflective mode and having a non-scattering state in the transmissive mode.

0 2004/040051 A

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G02F1/1347 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) IPC 7 GO2F Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, PAJ, INSPEC, COMPENDEX, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages Category ° 1-4 X EP 0 516 076 A (DAINIPPON INK & CHEMICALS) 2 December 1992 (1992-12-02) page 4, line 3 - line 30; figures 3,4 X PATENT ABSTRACTS OF JAPAN 1-4vol. 1998, no. 10, 31 August 1998 (1998-08-31) -& JP 10 123559 A (SHARP CORP), 15 May 1998 (1998-05-15) abstract; figures 2,3 Patent family members are listed in annex. Further documents are listed in the continuation of box C. Special categories of cited documents: "T" later document published after the International filing date or priority date and not in conflict with the application but "A" document defining the general state of the art which is not considered to be of particular relevance cited to understand the principle or theory underlying the invention earlier document but published on or after the International "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another ditation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-ments, such combination being obvious to a person skilled "O" document referring to an oral disclosure, use, exhibition or document published prior to the international filing date but later than the priority date claimed *&* document member of the same patent family Date of mailing of the international search report Date of the actual completion of the international search 27/01/2004 15 January 2004

Name and mailing address of the ISA

Fax: (+31-70) 340-3016

European Patent Office, P.B. 5818 Patentiaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,

Authorized officer

G111, R

INTERNATIONAL SEARCH REPORT

PCT/103/04637

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0516076	A	02-12-1992	JP	3182695 B2	03-07-2001
	•		JΡ	4348317 A	03-12-1992
			DE	69228843 D1	12-05-1999
			DE	69228843 T2	26-08-1999
			EP	0516076 A2	02-12-1992
			HK	1008697 A1	07-04-2000
			JP	5273576 A	22-10-1993
			ÜS	5296952 A	22-03-1994
JP 10123559	Α	15-05-1998	NONE		